

SECOND PRELIMINARY AMENDMENT

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Amendments to the Claims

This listing of claims will replace any prior version or listing of claims in the application.

Listing of Claims

Claims 1-15 (canceled).

16 (new). A pressing plunger mechanism for a glassware forming machine, said pressing plunger mechanism comprising:

a fixed housing mountable on said glassware forming machine;

a movable housing mounted on said fixed housing;

a plunger holder movably mounted on said movable housing;

a drive unit mounted on said movable housing, said drive unit including:

a threaded spindle fixedly attached to said plunger holder, a nut engaged with said spindle, said nut being coupled to a driven shaft, said driven shaft having a first bevel gear mounted thereon, said first bevel gear engaging a second bevel gear mounted on a drive shaft of an electric motor, rotation of said drive shaft of said electric motor rotating said nut and thereby moving said spindle in a lengthwise direction, lengthwise motion of said spindle moving said plunger holder relatively to said movable housing;

a cylinder and piston assembly mounted on said plunger holder, said piston having a piston rod and being movable within said cylinder relatively to said plunger holder when acted upon by a compressed fluid within said piston; and
a pressing plunger mounted on said piston rod.

17 (new). A pressing plunger mechanism according to Claim 16, further comprising an elastic coupling disposed between said drive shaft and said second bevel gear.

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18 (new). A pressing plunger mechanism according to Claim 16, wherein said driven shaft is oriented coaxially with said threaded spindle, said threaded spindle having a free end, said driven shaft having a concentric space which receives said free end of said threaded spindle.

19 (new). A pressing plunger mechanism according to Claim 17, wherein said driven shaft is oriented coaxially with said threaded spindle, said threaded spindle having a free end, said driven shaft having a concentric space which receives said free end of said threaded spindle.

20 (new). A pressing plunger mechanism according to Claim 16, further comprising:

a plurality of pressing plunger holders, each having a pressing plunger mounted thereon; and

a traverse fixedly attached to said threaded spindle, said pressing plunger holders being mounted on said traverse.

21 (new). A pressing plunger mechanism according to Claim 17, further comprising:

a plurality of pressing plunger holders, each having a pressing plunger mounted thereon; and

a traverse fixedly attached to said threaded spindle, said pressing plunger holders being mounted on said traverse.

22 (new). A pressing plunger mechanism according to Claim 18, further comprising:

a plurality of pressing plunger holders, each having a pressing plunger mounted thereon; and

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a traverse fixedly attached to said threaded spindle, said pressing plunger holders being mounted on said traverse.

23 (new). A pressing plunger mechanism according to Claim 16, further comprising:

a receiver and a longitudinally divided split ring, said receiver being mounted on said piston, said pressing plunger being coupled to said receiver by said split ring; and

a support cylinder mounted on said movable housing, said split ring being radially supported by said support cylinder.

24 (new). A pressing plunger mechanism according to Claim 18, further comprising:

a receiver and a longitudinally divided split ring, said receiver being mounted on said piston, said pressing plunger being coupled to said receiver by said split ring;

a support cylinder mounted on said movable housing, said split ring being radially supported by said support cylinder; and

a support cylinder mounted on said movable housing, said split ring being radially supported by said support cylinder.

25 (new). A pressing plunger mechanism according to Claim 20, further comprising:

a receiver and a longitudinally divided split ring, said receiver being mounted on said piston, said pressing plunger being coupled to said receiver by said split ring; and

a support cylinder mounted on said movable housing, said split ring being radially supported by said support cylinder.

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26 (new). A pressing plunger mechanism according to Claim 23, further comprising:

an evaluation circuit for determining an axial position of said pressing plunger;

a displacement pick-up mounted on said movable housing, said displacement pick-up being in communication with said evaluation circuit; and

an actuating element mounted on said piston rod, said actuating element cooperating with said displacement pick-up for determining said position of said piston for input thereof into said evaluation circuit.

27 (new). A pressing plunger mechanism according to Claim 16, further comprising:

a pin mounted on said plunger holder and oriented substantially parallel to said threaded spindle; and

a radially extending collar attached to said piston rod, said collar having an orifice receiving said pin for guiding axial motion of said piston.

28 (new). A pressing plunger mechanism according to Claim 20, further comprising:

a pin mounted on one of said plunger holders and oriented substantially parallel to said threaded spindle; and

a radially extending collar attached to said piston rod, said collar having an orifice receiving said pin for guiding axial motion of said piston.

29 (new). A pressing plunger mechanism according to Claim 23, further comprising:

a pin mounted on said plunger holder and oriented substantially parallel to said threaded spindle; and

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a radially extending collar attached to said piston rod, said collar having an orifice receiving said pin for guiding axial motion of said piston.

30 (new). A pressing plunger mechanism according to Claim 26, further comprising:

a pin mounted on said plunger holder and oriented substantially parallel to said threaded spindle; and

a radially extending collar attached to said piston rod, said collar having an orifice receiving said pin for guiding axial motion of said piston.

31 (new). A pressing plunger mechanism according to Claim 27, further comprising:

an evaluation circuit for determining an axial position of said pressing plunger;

a displacement pick-up mounted on said movable housing, said displacement pick-up being in communication with said evaluation circuit; and

an actuating element mounted on said collar, said actuating element cooperating with said displacement pick-up for determining said position of said piston for input thereof into said evaluation circuit.

32 (new). A pressing plunger mechanism according to Claim 16, further comprising:

a second drive unit mounted on said fixed housing, said second drive unit comprising a motor and a toothed wheel rotatable by said motor;

a toothed ring rotatably mounted on said fixed housing, said toothed ring having a threaded inner diameter, said toothed ring engaging said toothed wheel; and

a threaded projection extending from said movable housing and engaging said threaded inner diameter of said

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toothed ring, rotation of said toothed wheel by said motor rotating said toothed ring and thereby moving said movable housing in a direction lengthwise along said projection.

33 (new). A pressing plunger mechanism according to Claim 20, further comprising:

a second drive unit mounted on said fixed housing, said second drive unit comprising a motor and a toothed wheel rotatable by said motor;

a toothed ring rotatably mounted on said fixed housing, said toothed ring having a threaded inner diameter, said toothed ring engaging said toothed wheel; and

a threaded projection extending from said movable housing and engaging said threaded inner diameter of said toothed ring, rotation of said toothed wheel by said motor rotating said toothed ring and thereby moving said movable housing in a direction lengthwise along said projection.

34 (new). A pressing plunger mechanism according to Claim 23, further comprising:

a second drive unit mounted on said fixed housing, said second drive unit comprising a motor and a toothed wheel rotatable by said motor;

a toothed ring rotatably mounted on said fixed housing, said toothed ring having a threaded inner diameter, said toothed ring engaging said toothed wheel; and

a threaded projection extending from said movable housing and engaging said threaded inner diameter of said toothed ring, rotation of said toothed wheel by said motor rotating said toothed ring and thereby moving said movable housing in a direction lengthwise along said projection.

35 (new). A pressing plunger mechanism according to Claim 26, further comprising:

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a second drive unit mounted on said fixed housing, said second drive unit comprising a motor and a toothed wheel rotatable by said motor;

a toothed ring rotatably mounted on said fixed housing, said toothed ring having a threaded inner diameter, said toothed ring engaging said toothed wheel; and

a threaded projection extending from said movable housing and engaging said threaded inner diameter of said toothed ring, rotation of said toothed wheel by said motor rotating said toothed ring and thereby moving said movable housing in a direction lengthwise along said projection.

36 (new). A pressing plunger mechanism according to Claim 31, further comprising:

a second drive unit mounted on said fixed housing, said second drive unit comprising a motor and a toothed wheel rotatable by said motor;

a toothed ring rotatably mounted on said fixed housing, said toothed ring having a threaded inner diameter, said toothed ring engaging said toothed wheel; and

a threaded projection extending from said movable housing and engaging said threaded inner diameter of said toothed ring, rotation of said toothed wheel by said motor rotating said toothed ring and thereby moving said movable housing in a direction lengthwise along said projection.

37 (new). A pressing plunger according to Claim 32, further comprising a worm gear mounted on a drive shaft of said motor, said worm gear engaging said toothed wheel for rotating said toothed wheel in a reciprocating manner.

38 (new). A pressing plunger according to Claim 25, further comprising a clamping device mounted on said fixed housing and engageable with said support cylinder on said

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movable housing for fixing the position of said movable housing relatively to said fixed housing, said movable housing being movable substantially along the entire length of said support cylinder.

39 (new). A pressing plunger according to Claim 26, further comprising a clamping device mounted on said fixed housing and engageable with said support cylinder on said movable housing for fixing the position of said movable housing relatively to said fixed housing, said movable housing being movable substantially along the entire length of said support cylinder.

40 (new). A pressing plunger mechanism according to Claim 38, wherein said movable housing is disposed within said fixed housing.

41 (new). A pressing plunger mechanism according to Claim 38, further comprising:

first and second guide rods attached to said fixed housing in spaced apart relation, said guide rods being oriented substantially parallel to said threaded spindle; and

first and second guide bushings mounted on said movable housing and engaging said first and second guide rods respectively, said guide bushings cooperating with said guide rods for guiding motion of said movable housing relatively to said fixed housing.

42 (new). A pressing plunger mechanism according to Claim 40, further comprising:

first and second guide rods attached to said fixed housing in spaced apart relation, said guide rods being oriented substantially parallel to said threaded spindle; and

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first and second guide bushings mounted on said movable housing and engaging said first and second guide rods respectively, said guide bushings cooperating with said guide rods for guiding motion of said movable housing relatively to said fixed housing.

43 (new). A pressing plunger mechanism according to Claim 20, further comprising:

a cooling air pipe mounted on said fixed housing;
a compressed fluid pipe mounted on said fixed housing;

a cooling air extension pipe attached to said traverse and telescopically engaging said cooling air pipe;

a compressed fluid extension pipe attached to said traverse and telescopically engaging said compressed fluid pipe, wherein:

said cooling air extension pipe is arranged to provide cooling air to said pressing plunger and said compressed fluid extension pipe is in fluid communication with said cylinder for moving said piston therein.

44 (new). A pressing plunger mechanism according to Claim 28, further comprising:

a cooling air pipe mounted on said fixed housing;
a compressed fluid pipe mounted on said fixed housing;

a cooling air extension pipe attached to said traverse and telescopically engaging said cooling air pipe;

a compressed fluid extension pipe attached to said traverse and telescopically engaging said compressed fluid pipe, wherein:

said cooling air extension pipe is arranged to provide cooling air to said pressing plunger and said

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compressed fluid extension pipe is in fluid communication with said cylinder for moving said piston therein.

45 (new). A pressing plunger mechanism according to Claim 41, further comprising:

a cooling air pipe mounted on said fixed housing;
a compressed fluid pipe mounted on said fixed housing;

a cooling air extension pipe attached to said traverse and telescopically engaging said cooling air pipe;

a compressed fluid extension pipe attached to said traverse and telescopically engaging said compressed fluid pipe, wherein:

said cooling air extension pipe is arranged to provide cooling air to said pressing plunger and said compressed fluid extension pipe is in fluid communication with said cylinder for moving said piston therein.

46 (new). A pressing plunger mechanism according to Claim 45, wherein at least one of said cooling air pipe and said compressed fluid pipe is mounted between said guide rods.